

## REMARKS

Favorable reconsideration is respectfully requested.

The claims are 39 to 79.

The above amendment presents a new set of claims, the significance of which will be discussed in detail below.

Support for the new claims is evident from the original specification and drawings.

The present claims recite the feature of rotating the substrate to drain away the plating liquid by the action of centrifugal force as disclosed, for example, at page 22, line 15 et seq. Note, for example, page 23, lines 1 to 4.

With regard to the objection to the drawings, Figures 40A and 40B have been denominated as prior art in the attached replacement sheet.

With regard to the objection to the abstract, it has been revised to a single paragraph.

With regard to the objection to various terms on pages 3 to 5 of the Official Action, the suggested corrections have been made.

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dordi et al. (U.S. 6,267,853 B1) in combination with Cheung et al. (U.S. 6,258,223 B1) and Cross (U.S. 4,217,182).

This rejection is respectfully traversed.

The following brief discussion of the present invention may be of assistance in appreciating Applicants' reasons for traversal of the rejection.

Independent claim 39 recites *inter alia* washing a surface of the metal on the substrate with water or washing liquid comprising water after the filling process and before the removing process.

Independent claim 63 recites *inter alia* washing a surface of the metal layer on the substrate with water or washing liquid comprising water after the electroplating process and before the removing process.

If the substrate is not cleaned before the removal process, i.e., if the plating liquid remains attached to the surface of the substrate, then the etching rate is considerably lowered and requires a longer time for the removal process.

Based on experimental results, where, for example, water-washing was carried out before bevel etching, the etching rate was about 1.8 times higher than that of the bevel etching without water-washing before etching. The increased etching rate reduces required time for etching wafers, thus increases the number of wafers to be processed per hour by the apparatus.

This is neither disclosed nor suggested by the cited references, alone or combined.

Specifically, Dordi teaches that after electroplating process has been completed, the wafer is transferred into the EBR/SRD module, where a removal process is performed, and then the wafer is cleaned. Therefore, washing of the wafer is carried out after the removal process.

Cross teaches to wash after every step, but does not teach to wash a wafer before the removal process.

For the foregoing reasons, it is apparent that the rejection on prior art is untenable and should be withdrawn.

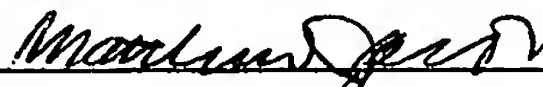
No further issues remaining, allowance of this application is respectfully requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact undersigned at the telephone number below.

Respectfully submitted,

Mizuki NAGAI et al.

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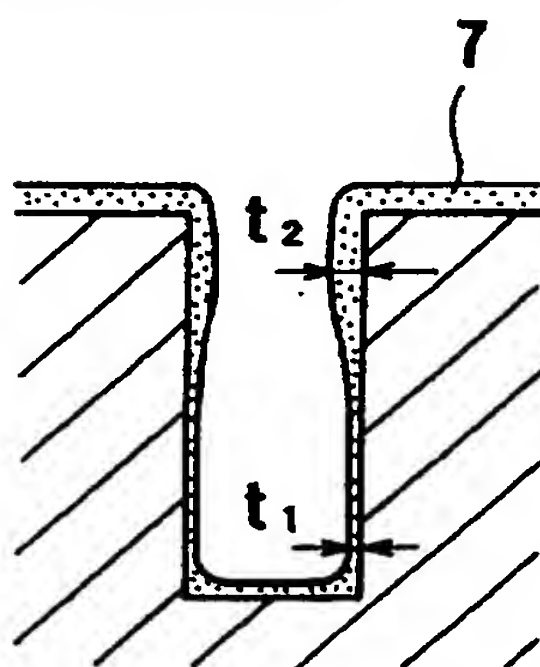
## **AMENDMENTS TO THE DRAWINGS**

Please replace Figures 40A and 40B with the attached replacement figures. A marked-up copy of these figures indicating the changes made accompanies.



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**FIG. 40A**  
**PRIOR ART**



**FIG. 40B**  
**PRIOR ART**

